

Appendix B: Host connectivity

Host connectivity options provide an IVR application with the ability to interface with several types of host computers over a number of different topologies. Meridian IVR 2.0/I supports the following host communication environments:

- IBM 3270/SNA over SDLC
- IBM 3270/SNA over Token Ring
- IBM 5250/SNA over SDLC (also referred to as APPC or LU6.2)
- IBM 5250/SNA over Token Ring (also referred to as APPC or LU6.2)
- VT100

The IVR system emulates 3270 and 5250 through the use of software called Express from Apertus.

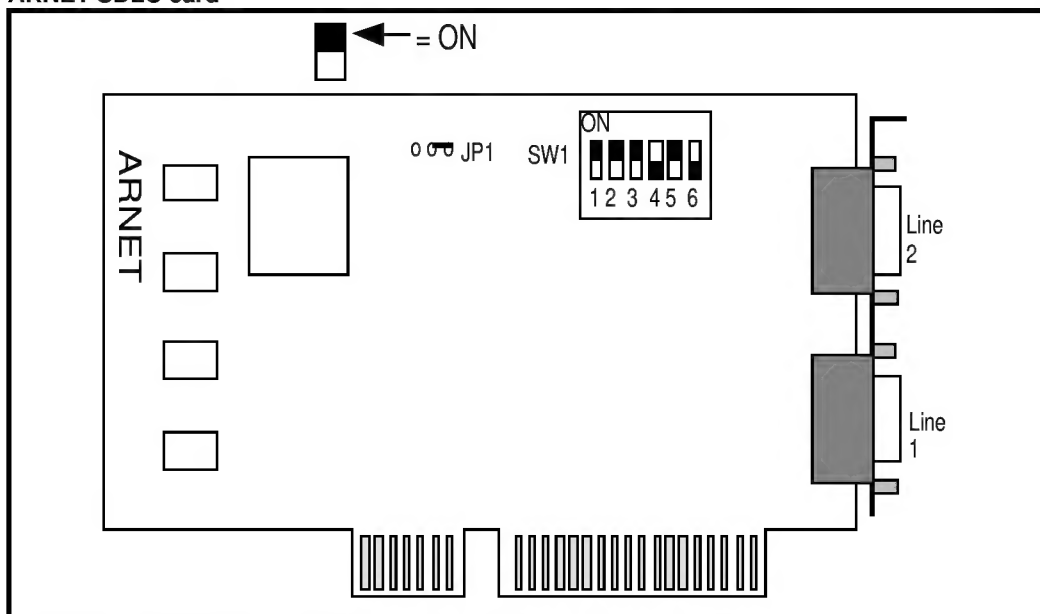
IBM 5250 emulation characteristics

Express emulates the IBM 5250 family of terminal devices to provide connectivity to mid-range systems such as the AS/400, and to other host systems that use 5250 communications. The IBM 5250 family of devices includes display stations that communicate with a host system through a cluster controller. 5250 emulation supports seven colors, with screen presentation spaces of 24 rows by 80 columns, or 27 rows by 132 columns and also supports extended highlighting features. The 5250 emulation emulates a 5394 Cluster Controller with 5251 Mod 2 terminals. The emulation uses 5250 passthrough and the 5250 terminal emulation uses APPC. Express uses LU 6.2 in support of 5250 emulation and CPI-C. APPC and LU6.2 are synonymous terms.

The 3270/5250 SNA/SDLC card

The Arnet SYNC/570 card is used for connectivity to the host using SNA/SDLC. The Arnet SYNC/570 is a high-performance expansion board which connects into an ISA expansion slot and contains two communication ports. Included with the Arnet SYNC/570 adapter are two cables (9-pin male to 25-pin male) for attaching to line 1 and 2 of the adapter. Also included is a loopback connector for diagnostics. The two ports of the SYNC/570 each have a high density DB-15 connector to connect any device with an EIA-232-D interface to the computer. The board operates at line speeds from 4800 baud Card to over 115K.

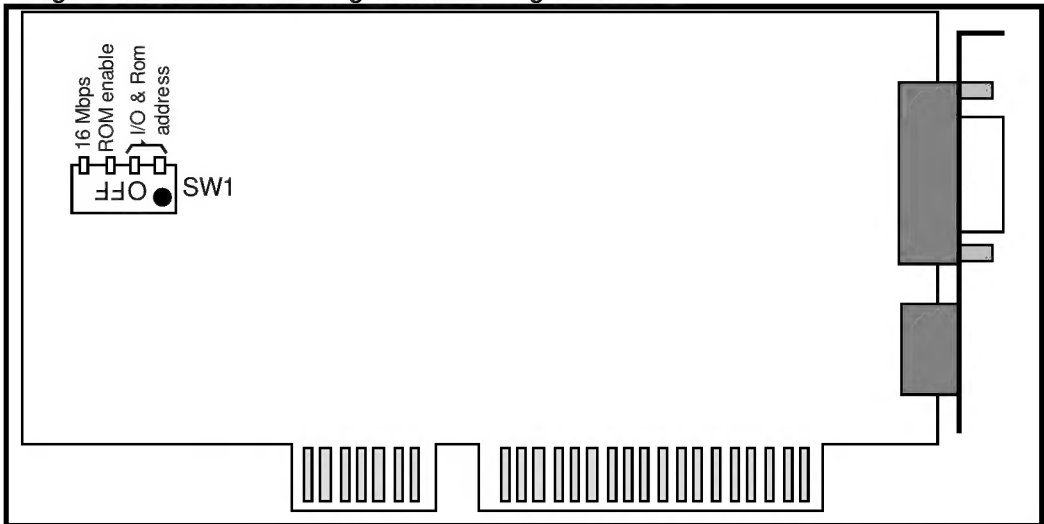
Figure B-1
ARNET SDLC card



The 3270/5250 Token Ring card

The Madge Smart 16/4 AT Plus Ringnode card is used for connectivity to the host using Token Ring.

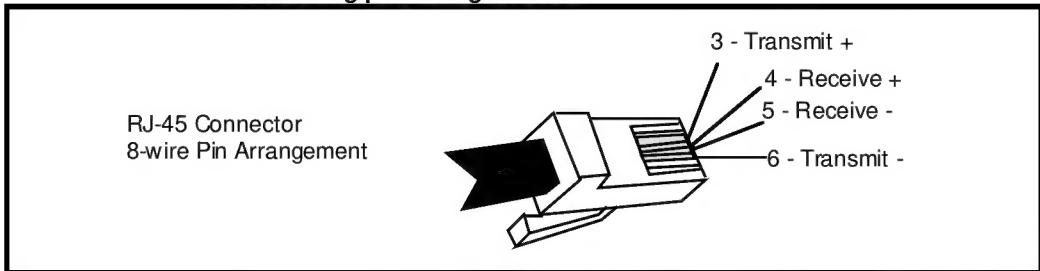
Figure B-2
Madge Smart 16/4 AT Plus Ringnode token ring host card



The LED indicators on the back of the card have the following indications:

LED	Function
Yellow	Indicates the NIC is inserted into the Token Ring.
Green	Indicates data is passing through the NIC.

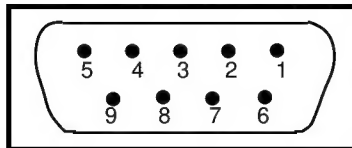
Figure B-3
Token Ring pin arrangements



9-Pin connector pinouts

The 9-pin “D” subminiature STP cable pinouts on the Network Interface card consist of the following:

Figure B-4
Subminiature STP cable pinouts



Pin	Cable	Signal
1	Red	Receive+
5	Black	Transmit-
6	Green	Receive-
9	Orange	Transmit+

Pins 2, 3, 4, 7, and 8 are unused. The connector shield grounds the chassis.

Configuring 5250 for SDLC host communications

The Express software pre-defines a user called express in the Express database. When configuring the hosts communications software, the root log in can be used.

- 1 Log into the AP as root.

- 2 Enter the root password at the prompt.
- 3 The `/etc/profile` file contains all the commands which are executed upon login for all non-root users.
- 4 To allow root to have all the environment variables set up which normal users will have, enter the following command:

`./etc/profile`

- 5 The Express software automatically starts at boot time and must be started before the configuration can be accomplished.
- 6 To verify that it has started, enter the following command:

`express_admin check`

The system should display

```
# express_admin check

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agent running:
  root 502      1 0 10:15:08 ?          0:00 agent
executive running:
  root 498      1 0 10:15:05 ?          0:00 executive
watchdog running:
  root 504      1 0 10:15:08 ?          0:00 watchdog
cdmserver running:
  root 367      1 0 10:14:51 ?          0:07 cdmserver nortel:/u/express/db/cdmst
Checking EXPRESS database divisions ...
Checking EXPRESS clients ...
#
```

Four daemons should appear in the running state. If the information above does not display, then express is not running. The express software may be started with the following command:

`express_admin start`

- 7 Begin the Express configuration by entering the following command:

`express -u express`

If the error “express: not found” appears, issue the command in step 5 above (`./etc/profile`).

If the error

- Initializing display capabilities...
- Terminal type 'ansi' not defined for user 'express' in the
- EXPRESS database.DCINIT failed...EXPRESS terminating

then the terminal type is not set up for your log in session. The valid terminal types available for Express can be obtained with the following command:

ls_screens -u express

Set the terminal type to a valid terminal type using the following command :

TERM=vt220;export TERM

- 8 The system displays the following screen:

Initializing display capabilities...

Retrieving database information for express.....

```
-----EXPRESS Global Options-----  
Welcome to EXPRESS  
This first time that you run EXPRESS, you are asked to select  
initial  
values for global parameters and options. You are also asked  
to  
characterize your planned usage of EXPRESS features. EXPRESS  
will then make available just those tasks and displays you  
need to  
utilize these selected features.  
You may change this information later through Set Global  
Options.
```

```
=====  
- OK -  
=====
```

- 9 Press <Enter> to display the following screen. This screen only appears the first time express is run.

```
-----EXPRESS Global Options-----
An EXPRESS domain is a single computer or a group of networked
computers on which EXPRESS is installed. EXPRESS provides
central, domain-wide operation and administration.
Please enter the following domain identification. This
information
is attached to configuration backups and communication traces.
It is also the default SNA Node identification.
      Domain Name: [                                     ]
      Location:   [                                     ]
                                     =====
                                     ~Continue~
                                     =====
```

- 10 The Domain Name and Location are not required for a stand-alone configuration (they are required for a network configuration), but since the information will appear in traces, enter a meaningful name such as the name of this company for the domain name and press <Enter>.

- 11 The following screen appears:

```
-----EXPRESS Desktop Features-----
Please select the features of the EXPRESS Integrated
Desktop that you plan to use.

Terminal Emulation    Other Services
[ ] 3270 Display      [ ] Remote Job Entry
[ ] 3270 Printing     [ ] CPI-C Transaction Programs
[*] 5250 Display

=====
~Continue~    ~ Options...~    ~Security...
=====
```

- 12 Use the tab key or the mouse to place the cursor in the 5250 Display selection and press Space to place an asterisk in that selection.

Press <Enter> to proceed to the next screen.

The following screen appears:

```
-----EXPRESS Server Features-----
Please select the features of the EXPRESS SNA Server
that you plan to use.

[*] LU 6.2 - Needed for CPI-C, 5250, and IP/LU6.2
[ ] X.25 - Needed for QLLC, XLI, X.PAD, and IP/X.25
[ ] IP Router - Needed for IP/LU6.2 and IP/X.25

Please select the client types supported by the
EXPRESS SNA Server.

[*] EXPRESS
[ ] Telnet 3270/5250
[ ] Netware for SAA

=====
- Continue -
=====
```

- 13 Use the tab key or the mouse to place the cursor in the LU 6.2 selection and press <Space> to place an asterisk in that selection. Use the tab key or the mouse to place the cursor in the EXPRESS selection and press Space to place an asterisk in that selection also.

Press <Enter> to proceed to the next screen.

```
[~] File Edit Preferences Window Task Help
-----EXPRESS Manager-----
Personal
Status      1. Control and Administration
Menu:        2. Server Configuration
<Esc><Ent>   3. Desktop Configuration
Cancel:
<Ctrl>^
Alt Key:
```


Notes:

- 1** If any of the parameters which initially displayed need to be changed, they can be found under the Set Global Options menu selection of the Preferences menu item.
- 2** The layout of the EXPRESS Manager screen contains the function of the keys to the left of the vertical line, three selections to the right of the vertical line, and menu item selections along the top. The function keys which display to the left of the vertical line will vary depending on which terminal is being emulated during this configuration. The meanings of the function keys in the example above are:
 - <Esc> then <Enter> = allow using the Menu
 - <Ctrl> and <^> = cancel from selection chosen
 - <Esc> then “q” = the <Alt key> (usually followed by another character)
 - that is, if the O of OK is highlighted, OK can be selected by doing an <Alt+O> which would be keystrokes <Esc> then q then O.
 - <Esc> then “!” = obtain the UNIX shell (type exit to return)

Verifying that Express recognizes the hardware

- 14** To verify that the Express software recognizes the communications adapter, perform the following steps:

Select Server Configuration by pressing the number 2.

The following screen appears:

```
-----Server Configuration-----
I.D.      Description              Status
!         Define Communications
;         Define LU6.2
?         Define Users/Sessions
&         Define Hardware
/         Define Job Entry Stations
```

- 15** Select Define Hardware. The following screen appears:

```
[~] Profile Edit Display Preferences Task Help
-----Define-----
Hardware-----
Personal Type Name Description
Status
Menu: Config Express Default configuration for
EXPRESS
<Esc><Ent System nortel Computer System nortel
Cancel: Adapter nortel.hpa0 HPA Adapter
<Ctrl>^ Port nortel.hpa0.0 HPA Port 0
Alt Key: Port nortel.hpa0.1 HPA Port 1
<Esc>q
ShellEsc:
<Esc>!
Task: &
Search:
Down
```

The screen should display the Adapter line indicating that the adapter has been recognized. If the Adapter lines do not appear, then check the hardware configuration using `express_adm` admin and/or check the settings on the adapter itself.

- 16 Select the Profile menu item and then choose Exit to return to the Express Manager window.
- 17 To complete the configuration of the Express software requires the completion of the following configurations:
 - a. Defining the Node
 - b. Defining the Link—there must be a link for each line to the host
 - c. Defining the Station
 - d. Defining the Remote LU and Mode
 - e. Defining the Symbolic Destination
 - f. Defining the 5250 Users/Sessions

Defining the node

- 18 From the Express Manager window, select Server Configuration by pressing the number 2.

The following screen appears:

```

-----Server Configuration-----
      I.D.      Description      Status
      !        Define Communications
      ;        Define LU6.2
      ?        Define Users/Sessions
      &        Define Hardware
      /        Define Job Entry Stations

```

19 Select Define Communications. The following screen appears:

```

-----Select Display-----
Please select the type of
Communications Profiles you wish to work with

<SNA>

-----
- Cancel -
-----

```

20 Ensure SNA is displayed and press <Enter>. The following screen appears:

```

-----Insert New SNA Node-----
Under Configuration Express
Name.....[ACME          ]
Description...[              ]

=====
- OK      -   - Cancel -
=====

```

21 The Name and Description are copied from the Domain Name and Location of the initial screen which was completed. Although the Name is required and cannot contain spaces, it is only used to name this configuration. The description is not required, but it can be helpful to describe the type of configuration such as “5250 SDLC configuration”.

Enter a Name and Description and press <Enter>. The following screen appears.

```
-----SNA Node ACME-----
Network ID
  [          ]
Control Point      -   XID...   -
  [          ]
Process...[nortel.kernel  ]*    -   RTM...   -
=====
-  OK    -  - Cancel -    - Alert Gen...-
=====
```

- 22 Enter the Network ID. This parameter is obtained from the customer and is usually in the VTAM gen on the mainframe called NETID. This parameter identifies the IVR system and is assigned by the mainframe.

Enter the Control Point. This parameter is obtained from the customer although it can be any value if the IVR system is talking to VTAM on the mainframe. Express requires this parameter be completed. This parameter identifies the IVR system and is assigned by the mainframe.

The Process parameter is only required if the express database is being shared among other Application processors. Leave the information in this field which appears here.

The RTM (Response Time Monitoring) is a feature which Netview on the host can use. There is normally nothing to change here.

The Alert feature is another item which can send messages to Netview on the host. There is normally nothing to change here.

Select XID and the following screen appears:

```

---SNA Node ACME - XID---
XID Format
(*) Format 3
( ) Format 0

XID Block...[E05 ]
XID ID.....[00000 ]

=====
-   OK   -   - Cancel -
=====

```

- 23 Ensure the XID Format is set to Format 3. Format 0 is an old format which is not normally used anymore unless the host is using old software.

The XID Block and XID ID together make up the XID. These parameters are obtained from the customer and normally the XID Block must be 056 for 5250 and the XID ID will probably be 00000.

Complete the fields and press <Enter>.

- 24 Place the cursor on OK and press <Enter>.

The following screen appears:

```

=====
-- NOTE --
                                     =====
                                     -   OK   -
                                     =====

The CPI-C Transaction Programs
Default LU Name has been set to
NETID.CP
=====

```

The above screen appears specifying that the LU Name has been set to what was entered in the Network ID and Control Point fields.

Press <Enter>. The following screen appears:

```
-----EXPRESS Tree Builder-
If you wish to insert another profile,
please select:

For SNA Node ACME:
  <New Link...>

For Configuration Express:
  <New SNA Node...>

  <End Insert>
```

Defining the link

- 25 Leave the cursor on New Link and press <Enter>. The following screen appears:

```
-----Insert New Link-----

Under SNA Node ACME

Type
(*) SDLC
( ) Channel
( ) Token Ring
( ) QLLC

Name.....[                ]
Description...[                ]

=====
-   OK   -   - Cancel -
=====
```

- 26 Make sure the asterisk is beside (*) SDLC (use the arrow keys to move to new selections under Type and Space bar to place the asterisk next to the correct selection).

Tab to the Name and enter a meaningful name (no spaces allowed) which describes this configuration. This name is only used by the Express database.

Tab to the Description and enter a meaningful description. This name is only used by the Express database.

Press <Enter> and the following screen appears:

```

-----SDLC Link
Trans5250-----

Node: ACME

Topology                                Role                                Mode...
(*) Switched                           ( ) Secondary
( ) Leased Point-to-Point               ( ) Primary
( ) Leased Multipoint                   (*) Negotiable

Ports...[nortel.hpa.0.0] *           Physical

Timers...

OK      Cancel      TG Chars...
=====

```

27 Select the correct Topology for this IVR System.

Switched is a dial-up link connecting two stations.

Leased Point-to-Point is a non-switched data link which directly connects to the host and the IVR system is the only station on the remote side.

Leased Multi-point is a non-switched data link which connects multiple secondary stations to a single host. that is, other 5250 terminals are on this line along with some sort of a splitter.

28 Select the correct Role for this IVR system.

Secondary—the local station is the secondary link station on this link.

Primary—the local station is the primary link station on this link.

Negotiable—the role of the local station will be negotiated at connect time. A leased multi-point line cannot be defined as negotiable.

29 Select the correct Port for this configuration. The software should automatically enter the “nodename.hpa0.0” item which signifies the first board and the first port, for example, nortel.hpa0.0; nortel.hpa0.1 would signify the second port of the HPA board. An entry of nortel.hpa0.0 1 tells Express that if link 0 does not work, automatically try port 1.

Select the Mode and the following screen appears:

```
-----SDLC Link Trans5250 - Mode-----  
  
Maximum Frame Size...[521  ]  
  
Sequencing  
(*) Normal      (mod 8)  
( ) Extended (mod 128)  
  
Two Way Operation  
(*) Alternate  
( ) Simultaneous [ ] REJ  
  
=====      -----  
-   OK   -      - Cancel -  
=====      -----
```

- 30 Select the Maximum Frame Size as specified by the host. Frame size specifies the maximum number of bytes in the I-field of an I-frame which may be transmitted or received on this data link. Standard sizes are 265 and 521, although the values may range from 0 to 32767.

Select the Sequencing as specified by the host. Sequencing specifies the type of SDLC sequencing used for this link. The local and remote link stations must agree on the value of this parameter; otherwise communication is not possible.

Normal sequencing allows a maximum of seven SDLC I-frames to be sent in a single poll sequence; this is the most common mode.

Extended sequencing allows a maximum of 127 I-frames to be sent.

Two Way Operation—specifies SDLC mode of operation. The local and remote link stations must agree on the value of this parameter; otherwise communication is not possible.

Alternate—each link station takes turns transmitting data. There is no simultaneous data transmission; this is the most common mode. This is like Half Duplex communications.

Simultaneous—both link stations may transmit frames simultaneously. This is like Full Duplex communications.

Press <Enter> to return to the previous screen.

Select Class and the following screen appears:

```
-----SDLC Link Trans5250 - Class-----
Class of Service...[          ]

=====
-   OK   -   - Cancel -
=====
```

- 31 Enter a Class of Service which is a name indicating the type of LU 6.2 conversations which should be carried on this link. When a conversation is allocated, the mode to be used might name a Class of Service. If there are multiple data links leading to the destination LU's node, Express will choose the data link which matches the Class of Service specified for the mode.

Press <Enter> to return to the previous screen.

Select Physical and the following screen appears:

```
-----SDLC Link Trans5250 - Physical-----

Bit Encoding   RTS Control   Idle
(*) NRZ        (*) Toggled  ( ) Flag
( ) NRZI       ( ) Constant  (*) Mark

=====
-   OK   -   - Cancel -
=====
```

- 32 Set the Bit Encoding, RTS Control and Idle parameters to the values as specified by the host. Toggled must be selected if the mainframe is configured for Half Duplex. The local and remote link stations must agree on these values, otherwise communication is not possible.

Press <Enter> after the parameters have been set. The previous screen appears.

Select Timers and the following screen appears:

```
----- SDLC Link ACME - Timers -----

Timers (in seconds, immediate, or forever)
XID Negotiation...[forever  ]*
Inactivity.....[forever  ]*
RR Poll.....[0.4        ]*
Response.....[3.0        ]*
```

```
DSR Wait.....[120.0      ]*
CTS Wait.....[3.0        ]*
CTS Down.....[0.5         ]*
DSR Down.....[0.5         ]*

Retries (value, none, or unlimited)

Response Limit....[5        ]*

[ ] Disconnect upon inactivity timeout

=====
-   OK   -   - Cancel -
=====
```

- 33 Ensure the XID Negotiation and Inactivity timers are set to forever.

Press <Enter> after the parameters have been set. The previous screen appears.

- 34 Select OK and press <Enter> to complete the Link Definition.

The following screen appears:

```
-----EXPRESS Tree Builder-----

If you wish to insert another profile,
please select:

For SDLC Link ACME:
  <New SDLC Station...>

For SNA Node ACME:
  <New Link...>

  <Up a Level>

  <End Insert>
```

- 35 Press <Enter> with the cursor on New SDLC Station. The following screen appears.

```
----- Insert New SDLC Station -----

Under SDLC Link
Name.....[ACME      ]
Description...[                               ]

=====
-   OK   -   - Cancel -
=====
```

Defining the station

- 36 A station needs to be defined for every 254 sessions. In the Name field enter a meaningful name (no spaces allowed) which describes this configuration. This name is only used by the Express database.

Tab to the Description and enter a meaningful description. This name is only used by the Express database.

Press <Enter> and the following screen appears:

```

----- SDLC Station TR -----
Node: ACME
Link: ACME

Connection Type
( ) Host
(*) Peer-to-Peer

Secondary Station Address...[01 ]

Send XID                               Remote Node Name
Block...[E05 ]                         Network ID.....[APPN   ]
ID.....[00000 ]                       Control Point...[CPX    ]

[ ] Remote Node is Network Node

[*] Restart connection if it fails
=====
-   OK   -   Cancel -   XID... -
=====
\

```

Connection Type—be sure to change this to Peer-to-Peer for 5250.

Fill in the Secondary Station Address from the PU address on the customer host.

Fill in Send XID Block and ID from the customer host.

Fill in the Network ID and Control Point from the customer host.

Generally the Network ID is set to “APPN”.

Make sure an asterisk [*] is NOT next to Remote Node is Network Node.

37 Press <Enter> and the following screen appears:

```
-----EXPRESS Tree Builder-----

If you wish to insert another profile,
please select:

For SDLC Link ACME:
  <New SDLC Station...>

  <Up a Level>

  <End Insert>
```

38 Tab to End Insert and press <Enter>. The following screen appears:

```
[~] Profile Edit Display Preferences Task Help
----- Define Communications - SNA -----
Personal Type Name Description
Status
Menu: Config Express Default configuration for EXPRESS
<Esc><Ent Node ACME TR loc test
Cancel: Indep. LUs 6.2 LUs Using All Stations
<Ctrl>^ LU ACME Control Point LU
Alt Key: Link ACME 5250 SDLC
<Esc>q Station TR 5250 station
ShellEsc:
Task: !
Search:
Down
```

39 Select Profile and then Exit from the menu. The following screen appears:

```
[~] File Edit Preferences Window Task Help
-----EXPRESS Manager-----
Personal
Status 1. Control and Administration
Menu: 2. Server Configuration
<Esc><Ent 3. Desktop Configuration
Cancel:
<Ctrl>^
```

40 Select 2. Server Configuration and press <Enter>. The following screen appears:

```
-----Server Configuration-----
I.D. Description Status
! Define Communications
; Define LU6.2
? Define Users/Sessions
```

```

&      Define Hardware
/      Define Job Entry Stations

```

41 Select Define LU6.2. The following screen appears:

```

----- Select Display -----

Please select the type of
LU 6.2 Profiles you wish to work with

<Remote Logical Unit>
<Mode>

<5250/CPI-C Symbolic Destination>

-----
- Cancel -
-----

```

Defining the remote Logical Unit

42 Select Remote Logical Unit (LU). The following screen appears:

```

-----Insert New Remote LU-----

Under Configuration Express
Name.....[                               ]
Description...[                               ]

=====
- OK - - Cancel -
=====

```

Fill in the Name and Description. These are only used by Express to identify this LU in the database.

43 Press <Enter> and the following screen appears:

```

----- Remote LU TR -----

Network ID.....[NETID    ]
LU Name.....[           ]
Remote Network ID.....[NETID  ]
Remote Control Point...[CPX    ]
Uninterpreted Name.....[           ]
IP Address.....[           ]
IP Idle Minutes.....[10     ]*

=====

```

```
-   OK   -   - Cancel -  
=====
```

The Network ID should default to the Node Network ID and the LU Name can be filled in with an arbitrary value.

Obtain the Remote Network ID and Remote Control Point from the customer information and fill in. The Remote Control Point must match the Remote Control Point in the Stations configuration.

Note: One of the most common problems is that the Remote Control Point does not match the remote control point in the Stations.

44 Press <Enter> and the following screen appears:

```
-----EXPRESS Tree Builder-----  
  
If you wish to insert another profile,  
please select:  
  
For Remote LU TRLU:  
  <New LU Pair...>  
  
For Configuration Express:  
  <New Remote LU...>  
  
  <End Insert>
```

45 Tab to End Insert and press <Enter>. The following screen appears:

```
[~] Profile Edit  Display Preferences Task Help  
-----Define LU 6.2 - Remote Logical Units-----  
Personal Type      Name      Description  
Status  
Menu:      Config      Express      Default configuration for EX  
<Esc><Ent  Remote LU    TRLU      5250 SDLC LU  
Cancel:  
  <Ctrl>^  
Alt Key:  
  <Esc>q
```

46 Rather than returning all the way back to the Express Manager window, the next screen can be obtained by selecting the Display pull down menu and then selecting Modes as shown below.

```
[~] Profile Edit  Display Preferences Task Help  
-----De  * Remote Logical Units-----  
Personal Type      Modes  
Status      (APPC Users)
```

```

Menu:                (LU Conversation Security)
<Esc><Ent            (CPI-C Transaction Programs)
Cancel:              5250/CPI-C Symbolic Destinations
<Ctrl>^             -----
Alt Key:             Select Display Level...
<Esc>q              (Display All)
ShellEsc:           -----
<Esc>!              Select Configuration...
Task: ;              -----
Search:
Down

```

47 The following screen appears:

```

[-] Profile Edit Display Preferences Task Help
-----Define LU 6.2 - Remote Logical Units-----
Personal Type Name Description
Status
Menu: Config Express Default configuration for EX
<Esc><Ent Mode blank BLANK (null) mode name
Cancel: Mode #BATCH Batch Capabilities Mode
<Ctrl>^ Mode #BATCHSC Secure Batch Capabilities Mode
Alt Key: Mode #INTER Interactive Capabilities Mode
<Esc>q Mode #INTERSC Secure Interactive Capabilities Mode
ShellEsc: Mode CPSVCMG CP Service Manager Mode
<Esc>! Mode IPMODE Mode for IP Router over Lu62
Task: ; Mode SNASVCMG SNA Service Manager Mode Search:
Down

```

48 The Mode listed as Blank or Null can be used for 5250 or a new Mode entry can be created. Place the cursor on the Blank Mode and press <Enter>. The following screen appears:

```

----- Mode blank -----
Class of Service...[TR123456 ]

Initial Session Limits
Maximum Total Sessions.....[64 ]
Minimum Contention Winners.....[16 ]
Minimum Contention Losers.....[16 ]
Contention Winner Auto Activation...[0 ]
Maximum Negotiated Sessions.....[64 ]

Session Outage Notification TP
[ ]

=====
- OK - - Cancel - - Parameters... -
=====

```

These parameters are important parameters. Obtain the correct information from the Host Administrator and fill them in on this screen. The values in the example above are generally the minimum values which should be set.

- 49 After completing the parameters on the Mode screen, press <Enter> to display the previous screen:

```
[~] Profile Edit Display Preferences Task Help
-----Define LU 6.2 - Remote Logical Units-----
Personal Type Name Description
Status
Menu: Config Express Default configuration for EX
<Esc><Ent Mode blank BLANK (null) mode name
Cancel: Mode #BATCH Batch Capabilities Mode
<Ctrl>^ Mode #BATCHSC Secure Batch Capabilities Mode
Alt Key: Mode #INTER Interactive Capabilities Mode
<Esc>q Mode #INTERSC Secure Interactive Capabilities Mode
ShellEsc: Mode CPSVCMG CP Service Manager Mode
<Esc>! Mode IPMODE Mode for IP Router over Lu62
Task: ; Mode SNASVCMG SNA Service Manager Mode Search:
Down
```

Defining the symbolic destination

- 50 Rather than returning all the way back to the Express Manager window, the next screen can be obtained by selecting the Display pull down menu and then selecting 5250/CPI-C Symbolic Destinations as shown below.

```
[~] Profile Edit Display Preferences Task Help
-----De * Remote Logical Units -----
Personal Type Modes
Status (APPC Users)
Menu: Configuration for EX (LU Conversation Security)
<Esc><Ent Remote (CPI-C Transaction Programs)
Cancel: 5250/CPI-C Symbolic Destinations
<Ctrl>^ -----
Alt Key: Select Display Level...
<Esc>q (Display All)
ShellEsc: -----
<Esc>! Select Configuration...
Task: ; -----
Search:
```

- 51 The following screen appears:

```
----- Insert New Symbolic Destination Information -----

Under Configuration Express

Name.....[ ]
Description...[ ]

=====
- OK - - Cancel -
=====
```

Fill in the Name and Description. These values are only used by the Express software.

52 Press <Enter> and the following screen appears:

```

----- Symbolic Destination Info TRSD -----

Partner LU...[                ]*
Mode.....[                ]*
Local LU....[                ]*

                                     -----
                                     - TP Names... -
                                     -----

=====  -----  -----
-   OK   -  - Cancel -  - Security... -
=====  -----  -----

```

Partner LU—press the down arrow to select the LU. It will be host ID.host CP name.

Mode—if the Blank or Null Mode was chosen, leave the this blank.

Local LU—press the down arrow to select the Local LU. It will be local ID.local CP name.

53 Press <Enter> and the following screen appears:

```

If you wish to insert another profile,
please select:

For Configuration Express:
  <New Symbolic Destination Information...>

  <End Insert>

Select End Insert and press <Enter>

```

54 The following screen appears:

```

[-] Profile Edit Display Preferences Task Help
-----Define LU 6.2 - 5250/CPI-C Symbolic Destinations-----
Personal Type      Name      Description
Status
Menu:      Config      Express      Default configuration for EX
<Esc><Ent  Symb. Dest    TRSYM
Cancel:
  <Ctrl>^
Alt Key:
  <Esc>q

```

Defining the 5250 users/sessions

- 55 Return to the Express Manager window by selecting Profile and then Exit from the pull down menu. The following menu appears:

```
[~] File Edit Preferences Window Task Help
-----EXPRESS Manager-----
Personal
Status          1. Control and Administration
Menu:           2. Server Configuration
<Esc><Ent>      3. Desktop Configuration
Cancel:
<Ctrl>^
Alt Key:
<Esc>q
ShellEsc:
<Esc>!
User:
```

- 56 Select Server Configuration. The following menu appears:

```
-----Server Configuration-----
I.D.      Description          Status
!         Define Communications
;         Define LU6.2
?         Define Users/Sessions
&         Define Hardware
/         Define Job Entry Stations
```

- 57 Select Define Users/Sessions. The following menu appears:

```
----- Select Display -----

Please select the type of
profiles you wish to work with

<Users>
<Terminal Emulation Services>

-----
- Cancel -
-----
```

58 Select Users. The following menu appears:

```
[~] Profile Edit Display Preferences Task Help
----- Define Users/Sessions - Users -----
Personal Type Name Description
Status
Menu: All Users All Configuration: Express
<Esc><Ent Group sysadm System Administrators Group
Cancel: User express Default user of EXPRESS
<Ctrl>^
Alt Key:
<Esc>q
ShellEsc:
<Esc>!
Task: ;
Down
```

59 Move the cursor to highlight the User line which reads “Default user of EXPRESS”. From the pull down menu select Profile and then New. The following screen appears:

```
----- Insert New Session -----

Under User express

Session Type
( ) 3270 Display
( ) 3270 Printer
(*) 5250
( ) Local

ID.....[a ]
Description...[ ]

=====
- OK - - Cancel -
=====
```

Session Type - place an asterisk next to 5250.

ID—for the first session enter an “a”. Subsequent sessions will be “b”, “c”, etc. up to session ID “h” for the first user.

60 Press <Enter> and the following screen appears:

```
----- 5250 Session a -----  
  
Defined for User express  
  
[*] Displayable task  
  
Telnet Host / CPI-C Symbolic Destination  
  [TRSYM      ]*  
Virtual Device Capabilities  
  [*] Color Support  
  [ ] 132x27 Support  
  
Language....[US          ]*  
Long Name...[            ]  
  
===== - - - - -  
-   OK   - - Cancel - - EHLLAPI... -  
===== - - - - -
```

Make sure NO auto sign-on is selected under the Sign On menu.

61 Press <Enter> and the following screen appears:

```
-----EXPRESS Tree Builder-----  
  
If you wish to insert another profile,  
please select:  
  
For User express  
  <New Session...>  
  
  <Up a Level>  
  
  <End Insert>
```

62 Continue selecting New Session and create session b, then c, etc., until eight sessions have been created. **ONLY EIGHT SESSIONS SHOULD BE CREATED PER USER.** More sessions will require another user.

When eight sessions have been created, select End Insert and the following screen appears:

```
[~] Profile Edit Display Preferences Task Help
----- Define Users/Sessions - Users -----
Personal Type Name Description
Status
Menu: All Users All Configuration: Express
<Esc><Ent Group sysadm System Administrators Group
Cancel: User express Default user of EXPRESS
<Ctrl>^ Session a session a
Alt Key: Session b session b
<Esc>q Session c session c
ShellEsc: Session d session d
<Esc>! Session e session e
Task: ; Session f session f
Down Session g session g
Session h session h
```

63 If more than eight sessions need to be configured, add a new user of “expressa” by performing the following steps:

- a. Place the cursor on the “Group” line.
- b. Select Profile from the menu.
- c. Select New from the Profile menu.

The following screen appears:

```
----- Group User sysadm -----

Insert New
<Session>
<User>

-----
- Cancel -
-----
```

d. Place the cursor on User and press <Enter>. The following screen appears:

```
----- Insert New User -----  
  
Under User Group sysadm  
  
Name.....[                ]  
Full Name...[                ]  
  
=====  -----  
-   OK   -   Cancel  -  
=====  -----
```

e. Enter a name of expressa for the second user which will support the next eight sessions, expressb for the third user which will support the next eight sessions, etc.

Press <Enter>, the following screen appears:

```
----- User expressa -----  
  
Group: sysadm  
          Supervisory Tasks  
-----  
+ Control Communications & Diagnostics  
+ Display Log  
+ Display Trace  
+ Administer Configurations  
+ Administer Log  
+ Define Communications  
+ Define LU 6.2  
  Customize Messages  
+ Define Users/Sessions  
-----  
'+'; defined for      -----  
  Group or All Users  - Session Support... -  
-----  
=====  -----  -----  
-   OK   -   Cancel  -   Password...  -  
=====  -----  -----
```

f. Press <Enter> to accept all the Supervisory Tasks. The following menu appears:

```

-----EXPRESS Tree Builder-----
If you wish to insert another profile,
please select:

For User expressa
  <New Session...>

For User Group sysadm:
  <New Session...>
  <New User...>

  <Up a Level>

  <End Insert>

```

g. With the cursor on New Session, press <Enter> to create a new session for the new express user.

```

----- Insert New Session -----
Under User expressa

Session Type
( ) 3270 Display
( ) 3270 Printer
(*) 5250
( ) Local

ID.....[a ]
Description...[ ]

=====
-   OK   -   - Cancel -
=====

```

Session Type - place an asterisk next to 5250ID - for the first session of the second user enter an "i". Subsequent sessions of the second user will be "j", "k", etc. up to session ID "p" for the second user. For the third user, use ID q, r, s, etc. Upper case letters may also be used.

h. Press <Enter> and the following screen appears:

```
----- 5250 Session a -----
Defined for User express

[*] Displayable task

Telnet Host / CPI-C Symbolic Destination
[TRSYM      ]*
-----
Virtual Device Capabilities          - Devices... -
-----
[*] Color Support                    - Sign On... -
[ ] 132x27 Support                    -
-----
Language....[US                      ]*
Long Name...[                        ] - Printing... -
-----
=====
-   OK   -   Cancel -   EHLLAPI... -
=====
```

Make sure NO auto sign-on is selected under the Sign On menu.

i. Press <Enter> and the following screen appears:

```
-----EXPRESS Tree Builder-----

If you wish to insert another profile,
please select:

For User expressa
  <New Session...>

  <Up a Level>

  <End Insert>
```

j. Continue selecting New Session and create session i, then j, etc., until eight sessions have been created. **ONLY EIGHT SESSIONS SHOULD BE CREATED PER USER.** More sessions will require another user.

When eight sessions have been created, select End Insert and the following screen appears:

```
[~] Profile Edit Display Preferences Task Help
----- Define Users/Sessions - Users -----
Personal Type Name Description
Status
Menu: All Users All Configuration: Express
<Esc><Ent Group sysadm System Administrators Group
Cancel: User express Default user of EXPRESS
<Ctrl>^ Session a session a
Alt Key: Session b session b
<Esc>q Session c session c
ShellEsc: Session d session d
<Esc>! Session e session e
Task: ; Session f session f
Down Session g session g
Session h session h
User expressa Expressa user
Session i session i
Session j session j
```

After the configuration is completed, exit the Express Manager by choosing Exit from the Profile menu.

Proceed to **“Testing 3270 and 5250 host communications”** on page B-61.

Configuring 5250 for Token Ring host communications

The Express software pre-defines a user called express in the Express database. When configuring the hosts communications software, the root log in can be used.

- 1 Log into the AP as root.
- 2 Enter the root password at the prompt.
- 3 The `/etc/profile` file contains all the commands which are executed upon login for all non-root users.
- 4 To allow root to have all the environment variables set up which normal users will have, enter the following command:

`./etc/profile`

- 5 The Express software automatically starts at boot time and must be started before the configuration can be accomplished.

- 6 To verify that it has started, enter the following command:

express_adm check

```
The system should display
# express_adm check
(c) Copyright 1989,1992 Apertus Technologies Incorporated. All Rights
Reserved. Restricted Rights Legend: Use, duplication, or disclosure
by the government is subject to restrictions as set forth in
subparagraph (c)(1)(ii) of the Rights in Technical
Data and Computer Software Restricted Rights clause at DAFRS
252.227-7013 and/or the Commercial Computer Software Restricted
Rights clause at FAR 52.227-19(c). Apertus Technologies
Incorporated, 7275 Flying Cloud Drive, Eden Prairie, MN 55344 U.S.A.

agent running:
  root    502      1  0 10:15:08 ?          0:00 agent
executive running:
  root    498      1  0 10:15:05 ?          0:00 executive
watchdog running:
  root    504      1  0 10:15:08 ?          0:00 watchdog
cdmserver running:
  root    367      1  0 10:14:51 ?          0:07 cdmserver
nortel:/u/express/db/cdmst
Checking EXPRESS database divisions ...
Checking EXPRESS clients ...
#
```

Four daemons should appear in the running state. If the information above does not display, then express is not running. The express software may be started with the following command:

express_adm start

- 7 Begin the Express configuration by entering the following command:

express -u express

If the error “express: not found” appears, issue the command in step 5 above (. /etc/profile).

If the error:

```
Initializing display capabilities ... Terminal type 'ansi'
not defined for user 'express' in the EXPRESS
database.DCINIT failed...EXPRESS terminating
```

appears then the terminal type is not set up for your log in session. The valid terminal types available for Express can be obtained with the following command:

ls_screens -u express

Set the terminal type to a valid terminal type using the following command:

TERM=vt220;export TERM

- 8 The system displays the following screen:

```

Initializing display capabilities...
Retrieving database information for express.....

-----EXPRESS Global Options-----
Welcome to EXPRESS
This first time that you run EXPRESS, you are asked to select initial
values for global parameters and options. You are also asked to
characterize your planned usage of EXPRESS features. EXPRESS
will then make available just those tasks and displays you need to
utilize these selected features.
You may change this information later through Set Global Options.
=====
- OK -
=====

```

- 9 Press <Enter> to display the following screen. This screen only appears the first time express is run.

```

-----EXPRESS Global Options-----
An EXPRESS domain is a single computer or a group of networked
computers on which EXPRESS is installed. EXPRESS provides
central, domain-wide operation and administration.
Please enter the following domain identification. This
information
is attached to configuration backups and communication traces.
It is also the default SNA Node identification.
Domain Name: [ ]
Location: [ ]
=====
~Continue~
=====

```

- 10 The Domain Name and Location are not required for a stand-alone configuration (they are required for a network configuration), but since the information will appear in traces, enter a meaningful name such as the name of this company for the domain name and press <Enter>.
- 11 The following screen appears:

```

-----EXPRESS Desktop Features-----

```

Please select the features of the EXPRESS Integrated Desktop that you plan to use.

Terminal Emulation	Other Services
☐ 3270 Display	☐ Remote Job Entry
☐ 3270 Printing	☐ CPI-C Transaction Programs
☒ 5250 Display	

=====	-----	-----
~Continue~	~ Options...~	~Security...~
=====	-----	-----

- 12 Use the tab key or the mouse to place the cursor in the 5250 Display selection and press Space to place an asterisk in that selection.

Press <Enter> to proceed to the next screen.

The following screen appears:

```
-----EXPRESS Server Features-----
Please select the features of the EXPRESS SNA Server
that you plan to use.

[*] LU 6.2 - Needed for CPI-C, 5250, and IP/LU6.2
[ ] X.25 - Needed for QLLC, XLI, X.PAD, and IP/X.25
[ ] IP Router - Needed for IP/LU6.2 and IP/X.25

Please select the client types supported by the
EXPRESS SNA Server.

[*] EXPRESS
[ ] Telnet 3270/5250
[ ] Netware for SAA

=====
~ Continue ~
=====
```

- 13 Use the tab key or the mouse to place the cursor in the LU 6.2 selection and press Space to place an asterisk in that selection. Use the tab key or the mouse to place the cursor in the EXPRESS selection and press Space to place an asterisk in that selection also.

Press <Enter> to proceed to the next screen.

```
[~] File Edit Preferences Window Task Help
-----EXPRESS Manager-----
```

```

Personal
Status      1. Control and Administration
Menu:       2. Server Configuration
<Esc><Ent>  3. Desktop Configuration
Cancel:
<Ctrl>^
Alt Key:

```

Notes:

- 1** If any of the parameters which initially displayed need to be changed, they can be found under the Set Global Options menu selection of the Preferences menu item.
- 2** The layout of the EXPRESS Manager screen contains the function of the keys to the left of the vertical line, three selections to the right of the vertical line, and menu item selections along the top. The function keys which display to the left of the vertical line will vary depending on which terminal is being emulated during this configuration. The meanings of the function keys in the example above are:
 - <Esc> then <Enter> = allow using the Menu
 - <Ctrl> and <^> = cancel from selection chosen
 - <Esc> then “q” = the <Alt key> (usually followed by another character)
 - that is, if the O of OK is highlighted, OK can be selected by doing a <Alt+O> which would be keystrokes <Esc> then q then O.
 - <Esc> then “!” = obtain the UNIX shell (type exit to return)

Verifying that Express recognizes the hardware

- 14 To verify that the Express software recognizes the communications adapter, perform the following steps:

Select Server Configuration by pressing the number 2

The following screen appears:

```

-----Server Configuration-----
      I.D.      Description                      Status

```

```
!      Define Communications
;      Define LU6.2
?      Define Users/Sessions
&      Define Hardware
/      Define Job Entry Stations
```

15 Select Define Hardware. The following screen appears:

```
[ - ] Profile Edit Display Preferences Task Help
-----Define-----
Hardware-----
Personal Type Name Description
Status
Menu: Config Express Default configuration for
EXPRESS
<Esc><Ent> System nortel Computer System nortel
Cancel: Adapter nortel.tr Token Ring Adapter
<Ctrl>^ Port nortel.tr Token Ring Port
Alt Key:
<Esc>q
ShellEsc:
<Esc>!
Task: &
Search:
Down
```

The screen should display the Adapter line indicating that the adapter has been recognized. If the Adapter lines do not appear, then check the hardware configuration using `express_adm` admin and/or check the settings on the adapter itself.

16 Select the Profile menu item and then choose Exit to return to the Express Manager window.

17 To complete the configuration of the Express software requires the completion of the following configurations:

- a. Defining the Node
- b. Defining the Link—there must be a link for each line to the host
- c. Defining the Station
- d. Defining the Remote LU and Mode

e. Defining the Symbolic Destination

f. Defining the 5250 sessions

Defining the node

- 18 From the Express Manager window, select Server Configuration by pressing the number 2.

The following screen appears:

```

-----Server Configuration-----
      I.D.      Description      Status
      !         Define Communications
      ;         Define LU6.2
      ?         Define Users/Sessions
      &         Define Hardware
      /         Define Job Entry Stations

```

- 19 Select Define Communications. The following screen appears:

```

-----Select Display-----
Please select the type of
Communications Profiles you wish to work with

<SNA>

-----
- Cancel -
-----

```

- 20 Ensure SNA is displayed and press <Enter>.

The following screen appears:

```

-----Insert New SNA Node-----
Under Configuration Express
Name.....[ACME          ]
Description...[              ]

=====
- OK      -   - Cancel -
=====

```

- 21 The Name and Description are copied from the Domain Name and Location of the initial screen which was completed. Although the Name is required and cannot contain spaces, it is only used to name this configuration. The description is not required, but it can be helpful to describe the type of configuration such as “5250 Token Ring configuration”.

Enter a Name and Description and press <Enter>.

The following screen appears.

```
-----SNA Node ACME-----
Network ID
[          ]
Control Point          -   XID...   -
[          ]
Process...[nortel.kernel] *    -   RTM...   -
=====
-  OK    -  - Cancel -    - Alert Gen...-
=====
```

- 22 Enter the Network ID. This parameter is obtained from the customer and is usually in the VTAM gen on the mainframe called NETID. This parameter identifies the IVR system and is assigned by the mainframe.

Enter the Control Point. This parameter is obtained from the customer although it can be any value if the IVR system is talking to VTAM on the mainframe. Express requires this parameter be completed. This parameter identifies the IVR system and is assigned by the mainframe.

The Process parameter is only required if the express database is being shared among other Application processors (of which IVR 2.0/S is not). Leave the information in this field which appears here.

Response Time Monitoring (RTM) is a feature which Netview on the host can use. There is normally nothing to change here.

The Alert feature is another item which can send messages to Netview on the host. There is normally nothing to change here.

Select XID and the following screen appears:

```
---SNA Node ACME - XID---
```



```
XID Format
(*) Format 3
( ) Format 0
```

```
XID Block...[E05 ]
XID ID.....[00000 ]
```

```
=====
-   OK   -   - Cancel -
=====
```

- 23 Ensure the XID Format is set to Format 3. Format 0 is an old format which is not normally used anymore unless the host is using old software.

The XID Block and XID ID together make up the XID. These parameters are obtained from the customer and normally the XID Block must be 056 for 5250 and the XID ID will probably be 00000.

Complete the fields and press <Enter>.

- 24 Place the cursor on OK and press <Enter>. The following screen appears:

```
=====
-- NOTE --
                                     =====
                                     -   OK   -
                                     =====

The CPI-C Transaction Programs
Default LU Name has been set to
NETID.CP
=====
```

The above screen appears specifying that the LU Name has been set to what was entered in the Network ID and Control Point fields.

Press <Enter>. The following screen appears:

```
-----EXPRESS Tree Builder-----
If you wish to insert another profile,
please select:

For SNA Node ACME:
  <New Link...>

For Configuration Express:
  <New SNA Node...>

  <End Insert>
```

Defining the link

- 25 Leave the cursor on New Link and press <Enter>. The following screen appears:

```
----- Token Ring Link TFNode -----  
  
Node: ACME  
  
Local MAC Address  
( ) Use Default  
(* ) Assign Address      [          ]  
  
Port  
[nortel.tr          ]*      -----  
                             - Mode... -  
                             -----  
[ ] Connection Network Link  -----  
                             - Class... -  
                             -----  
                             - Timers... -  
                             -----  
=====                     -----  
-   OK   -   - Cancel -   - TG Char... -  
=====                     -----
```

Local MAC Address—this is the 12-digit hexadecimal address which will be used when communicating with the host. “Use Default” will cause the system to obtain the unique MAC address which is burned into each LAN board. “Assign Address” will require the entering of the MAC address on this screen. It is recommended that “Assign Address” be chosen if a MAC address can be obtained from the customer. The advantage of assigning the address on this screen is that if the Madge card is ever replaced, the MAC address does not have to be changed.

Port is the name given to the Madge adapter port.

- 26 Select the correct Port for this configuration. The software should automatically enter the “nodename.tr” item which signifies the token ring board.

Select Class and the following screen appears:

```
-----Token Ring Link Trans5250 - Class-----
```

```
Class of Service...[          ]
```

```
=====
-   OK   -   Cancel  -
=====
```

- 27 Enter a Class of Service which is a name indicating the type of LU 6.2 conversations which should be carried on this link. When a conversation is allocated, the mode to be used might name a Class of Service. If there are multiple data links leading to the destination LU's node, Express will choose the data link which matches the Class of Service specified for the mode.

Press <Enter> to return to the previous screen.

- 28 Select Timers and the following screen appears:

```
----- Token Ring Link TFNode - Timers -----
```

```
Timers (in seconds, immediate, or forever)
```

```
REJ.....[2.0      ]*
Remote Busy.....[10.0   ]*
Inactivity.....[forever ]*
XID Negotiation...[forever]*
Response.....[2.0      ]*
Acknowledgement...[0.1   ]*
```

```
Retries (value, none, or unlimited)
```

```
XID Attempts.....[40      ]*
Response Limit....[30      ]*
```

```
=====
-   OK   -   Cancel  -
=====
```

- 29 Ensure the XID Negotiation and Inactivity timers are set to forever.

Press <Enter> after the parameters have been set. The previous screen appears.

30 Select TG Char and the following screen appears:

```
----- Token Ring Link TFNode - TG Characteristics -----

Security                                Propagation Delay
(*) Non Secure                          ( ) Minimum
( ) Public Switched Network            (*) Local Area Network
( ) Underground Cable                  ( ) Telephone
( ) Secure Conduit                     ( ) Packet Switched Network
( ) Guarded Conduit                    ( ) Satellite
( ) Encrypted                           ( ) Maximum
( ) Guarded Radiation

Ring Speed      Cost Per Connect Time...[128 ]   User Defined
( ) 4 Mbps      Cost Per Byte.....[128 ]       1...[128 ]
(*) 16 Mbps                                           2...[128 ]
                                           3...[128 ]

=====
-   OK   -   - Cancel -
=====
```

Ensure the Ring Speed is set at the correct speed. Place the cursor on OK and press <Enter> to return to the previous screen.

31 Select OK and press <Enter> to complete the Link Definition.

The following screen appears:

```
-----EXPRESS Tree Builder-----

If you wish to insert another profile,
please select:

For Token Ring Link ACME:
  <New Token Ring Station...>

For SNA Node ACME:
  <New Link...>

  <Up a Level>

  <End Insert>
```


- Connection Type—be sure to change this to Peer-to-Peer for 5250.
- Local and Remote SAP Value—obtain from the customer host.
- Local MAC Address—comes from what was entered for the Link.
- Remote MAC Address—obtain from the customer host.
- Fill in Send XID Block and ID from the customer host.
- Fill in the Network ID and Control Point from the customer host.

Generally the Network ID is set to “APPN”. Make sure an asterisk [*] is NOT next to Remote Node is Network Node.

Make sure an asterisk [*] is next to Restart connection if it fails.

34 Place the cursor on XID and press <Enter> to display the screen below:

```
----- Token Ring Station Transtation - XID -----

XID Format      Role
(*) Format 3    ( ) Secondary
( ) Format 0    ( ) Primary
                (*) Negotiable

[ ] Verify Adjacent Node Identity

=====
-   OK   -   - Cancel -
=====
```

Ensure the XID Format is set to Format 3. Format 0 is an old format which is not normally used anymore unless the host is using old software. Make sure Role is set to match what the customer host requires.

- Secondary—the local station is the secondary link station on this link.
- Primary—the local station is the primary link station on this link.
- Negotiable—the role of the local station will be negotiated at connect time.

Complete the fields and press <Enter> to return to the previous screen.

35 Place the cursor on OK and press <Enter>. The following screen appears:

```
-----EXPRESS Tree Builder-----

If you wish to insert another profile,
please select:

For Token Ring Station Transtation:
  <New Logical Unit...>

For Token Ring Link TFNode:
  <New Token Ring Station...>

  <Up a Level>

  <End Insert>
```

36 Tab to End Insert and press <Enter>. The following screen appears:

```
[~] Profile Edit Display Preferences Task Help
----- Define Communications - SNA -----
Personal Type Name Description
Status
Menu: Config Express Default configuration for EXPRESS
<Esc><Ent Node ACME TR loc test
Cancel: Indep. LUs 6.2 LUs Using All Stations
<Ctrl>^ LU ACME Control Point LU
Alt Key: Link ACME Trans Node
<Esc>q Station TR 5250 station
ShellEsc:
Task: !
Search:
Down
```

37 Select Profile and then Exit from the menu. The following screen appears:

```
[~] File Edit Preferences Window Task Help
-----EXPRESS Manager-----
Personal
  Status          1. Control and Administration
Menu:             2. Server Configuration
  <Esc><Ent        3. Desktop Configuration
Cancel:
  <Ctrl>^
Alt Key:
  <Esc>q
ShellEsc:
  <Esc>!
User:
```

38 Select 2. Server Configuration and press <Enter>. The following screen appears:

```
-----Server Configuration-----
I.D.      Description          Status
!         Define Communications
;         Define LU6.2
?         Define Users/Sessions
&         Define Hardware
/         Define Job Entry Stations
```

39 Select Define LU6.2. The following screen appears:

```
----- Select Display -----

Please select the type of
LU 6.2 Profiles you wish to work with

<Remote Logical Unit>
<Mode>

<5250/CPI-C Symbolic Destination>

-----
- Cancel -
-----
```


Defining the remote Logical Unit

40 Select Remote Logical Unit (LU). The following screen appears:

```

-----Insert New Remote LU-----

Under Configuration Express
Name.....[                               ]
Description...[                               ]

=====
-   OK   -   - Cancel -
=====

```

Fill in the Name and Description. These are only used by Express to identify this LU in the database.

41 Press <Enter> and the following screen appears:

```

----- Remote LU TR -----

Network ID.....[NETID    ]
LU Name.....[          ]
Remote Network ID.....[NETID ]
Remote Control Point...[CPX   ]
Uninterpreted Name.....[          ]
IP Address.....[          ]
IP Idle Minutes.....[10     ]*

=====
-   OK   -   - Cancel -
=====

```

The Network ID should default to the Node Network ID and the LU Name can be filled in with an arbitrary value.

Obtain the Remote Network ID and Remote Control Point from the customer information and fill in. The Remote Control Point must match the Remote Control Point in the Stations configuration.

Note: One of the most common problems is that the Remote Control Point does not match the remote control point in the Stations.

42 Press <Enter> and the following screen appears:

```
-----EXPRESS Tree Builder-----

If you wish to insert another profile,
please select:

For Remote LU TRLU:
  <New LU Pair...>

For Configuration Express:
  <New Remote LU...>

  <End Insert>
```

43 Tab to End Insert and press <Enter>. The following screen appears:

```
[~] Profile Edit Display Preferences Task Help
-----Define LU 6.2 - Remote Logical Units-----
Personal Type Name Description
Status
Menu: Config Express Default configuration for EX
<Esc><Ent Remote LU TRLU 5250 LU
Cancel:
<Ctrl>^
Alt Key:
<Esc>q
ShellEsc:
<Esc>!
Task: ;
Search:
Down
```

44 Rather than returning all the way back to the Express Manager window, the next screen can be obtained by selecting the Display pull down menu and then selecting Modes as shown in the following:

```
[~] Profile Edit Display Preferences Task Help
-----De * Remote Logical Units -----
Personal Type Modes
Status (APPC Users)
Menu: Configuration for EX (LU Conversation Security)
<Esc><Ent Remote (CPI-C Transaction Programs)
Cancel: 5250/CPI-C Symbolic Destinations
<Ctrl>^
Alt Key: Select Display Level...
<Esc>q (Display All)
ShellEsc:
<Esc>! Select Configuration...
Task: ;
Search:
Down
```

45 The following screen appears:

```
[~] Profile Edit Display Preferences Task Help
-----Define LU 6.2 - Remote Logical Units-----
Personal Type Name Description
Status
Menu: Config Express Default configuration for EX
<Esc><Ent Mode blank BLANK (null) mode name
Cancel: Mode #BATCH Batch Capabilities Mode
<Ctrl>^ Mode #BATCHSC Secure Batch Capabilities Mode
Alt Key: Mode #INTER Interactive Capabilities Mode
<Esc>q Mode #INTERSC Secure Interactive Capabilities Mode
ShellEsc: Mode CPSVCMG CP Service Manager Mode
<Esc>! Mode IPMODE Mode for IP Router over Lu62
Task: ; Mode SNASVCMG SNA Service Manager Mode Search:
Down
```

46 The Mode listed as Blank or Null can be used for 5250 or a new Mode entry can be created. Place the cursor on the Blank Mode and press <Enter>. The following screen appears:

```
----- Mode blank -----
Class of Service...[TR123456 ]

Initial Session Limits
Maximum Total Sessions.....[64 ]
Minimum Contention Winners.....[16 ]
Minimum Contention Losers.....[16 ]
Contention Winner Auto Activation...[0 ]
Maximum Negotiated Sessions.....[64 ]

Session Outage Notification TP
[ ]

=====
- OK - - Cancel - - Parameters... -
=====
```

The parameters are important parameters. Obtain the correct information from the Host Administrator and fill them in on this screen. The values in the example above are generally the minimum values which should be set.

- 47 After completing the parameters on the Mode screen, press <Enter> to display the previous screen:

```
[~] Profile Edit Display Preferences Task Help
-----Define LU 6.2 - Remote Logical Units-----
Personal Type Name Description
Status
Menu: Config Express Default configuration for EX
<Esc><Ent Mode blank BLANK (null) mode name
Cancel: Mode #BATCH Batch Capabilities Mode
<Ctrl>^ Mode #BATCHSC Secure Batch Capabilities Mode
Alt Key: Mode #INTER Interactive Capabilities Mode
<Esc>q Mode #INTERSC Secure Interactive Capabilities Mode
ShellEsc: Mode CPSVCMG CP Service Manager Mode
<Esc>! Mode IPMODE Mode for IP Router over Lu62
Task: ; Mode SNASVCMG SNA Service Manager Mode Search:
Down
```

Defining the symbolic destination

- 48 Rather than returning all the way back to the Express Manager window, the next screen can be obtained by selecting the Display pull down menu and then selecting 5250/CPI-C Symbolic Destinations as shown below.

```
[~] Profile Edit Display Preferences Task Help
-----De * Remote Logical Units -----
Personal Type Modes
Status (APPC Users)
Menu: Configuration for EX (LU Conversation Security)
<Esc><Ent Remote (CPI-C Transaction Programs)
Cancel: 5250/CPI-C Symbolic Destinations
<Ctrl>^ -----
Alt Key: Select Display Level...
<Esc>q (Display All)
ShellEsc: -----
<Esc>! Select Configuration...
Task: ; -----
Search:
```

- 49 The following screen appears:

```
----- Insert New Symbolic Destination Information -----

Under Configuration Express

Name.....[ ]
Description...[ ]

=====
- OK - - Cancel -
=====
```

Fill in the Name and Description. These values are only used by the Express software.

50 Press <Enter> and the following screen appears:

```

----- Symbolic Destination Info TRSD -----

Partner LU...[                ]*
Mode.....[                ]*
Local LU....[                ]*

                                     -----
                                     - TP Names... -
                                     -----

=====  -----  -----
-   OK   -  - Cancel -  - Security... -
=====  -----  -----

```

- Partner LU—press the down arrow to select the LU. It will be host ID.host CP name.
- Mode—if the Blank or Null Mode was chosen, leave the this blank.
- Local LU—press the down arrow to select the Local LU. It will be local ID.local CP name.

51 Press <Enter> and the following screen appears:

```

If you wish to insert another profile,
please select:

For Configuration Express:
  <New Symbolic Destination Information...>

  <End Insert>

Select End Insert and press <Enter>

```

52 The following screen appears:

```

[-] Profile Edit Display Preferences Task Help
-----Define LU 6.2 - 5250/CPI-C Symbolic Destinations-----
Personal Type      Name      Description
Status
Menu:      Config    Express    Default configuration for EX
<Esc><Ent  Symb. Dest  TRSYM
Cancel:
<Ctrl>^
Alt Key:
<Esc>q

```

Defining the 5250 users/sessions

- 53 Return to the Express Manager window by selecting Profile and then Exit from the pull down menu. The following menu appears:

```
[~] File Edit Preferences Window Task Help
-----EXPRESS Manager-----
Personal
Status          1. Control and Administration
Menu:           2. Server Configuration
<Esc><Ent>      3. Desktop Configuration
Cancel:
<Ctrl>^
Alt Key:
<Esc>q
ShellEsc:
<Esc>!
User:
```

- 54 Select Server Configuration. The following menu appears:

```
-----Server Configuration-----
I.D.   Description      Status
!      Define Communications
;      Define LU6.2
?      Define Users/Sessions
&      Define Hardware
/      Define Job Entry Stations
```

- 55 Select Define Users/Sessions. The following menu appears:

```
----- Select Display -----

Please select the type of
profiles you wish to work with

<Users>
<Terminal Emulation Services>

-----
- Cancel -
-----
```

56 Select Users. The following menu appears:

```
[~] Profile Edit Display Preferences Task Help
----- Define Users/Sessions - Users -----
Personal Type Name Description
Status
Menu: All Users All Configuration: Express
<Esc><Ent Group sysadm System Administrators Group
Cancel: User express Default user of EXPRESS
<Ctrl>^
Alt Key:
<Esc>q
ShellEsc:
<Esc>!
Task: ;
Down
```

57 Move the cursor to highlight the User line which reads “Default user of EXPRESS”. From the pull-down menu select Profile and then New. The following screen appears:

```
----- Insert New Session -----

Under User express

Session Type
( ) 3270 Display
( ) 3270 Printer
(*) 5250
( ) Local

ID.....[a ]
Description...[ ]

=====
- OK - - Cancel -
=====
```

Session Type—place an asterisk next to 5250 ID—for the first session enter an “a”. Subsequent sessions will be “b”, “c”, etc. up to session ID “h” for the first user.

58 Press <Enter> and the following screen appears:

```
----- 5250 Session a -----  
  
Defined for User express  
  
[*] Displayable task  
  
Telnet Host / CPI-C Symbolic Destination  
  [TRSYM      ]*  
Virtual Device Capabilities  
  [*] Color Support  
  [ ] 132x27 Support  
  
Language....[US          ]*  
Long Name...[          ]  
  
===== - - - - -  
-   OK   - - Cancel - - EHLLAPI... -  
===== - - - - -
```

Make sure NO auto sign-on is selected under the Sign On menu.

59 Press <Enter> and the following screen appears:

```
-----EXPRESS Tree Builder-----  
  
If you wish to insert another profile,  
please select:  
  
For User express  
  <New Session...>  
  
  <Up a Level>  
  
  <End Insert>
```

60 Continue selecting New Session and create session b, then c, etc., until eight sessions have been created. **ONLY EIGHT SESSIONS SHOULD BE CREATED PER USER.** More sessions will require another user.

When eight sessions have been created, select End Insert and the following screen appears:

```
[~] Profile Edit Display Preferences Task Help
----- Define Users/Sessions - Users -----
Personal Type Name Description
Status
Menu: All Users All Configuration: Express
<Esc><Ent Group sysadm System Administrators Group
Cancel: User express Default user of EXPRESS
<Ctrl>^ Session a session a
Alt Key: Session b session b
<Esc>q Session c session c
ShellEsc: Session d session d
<Esc>! Session e session e
Task: ; Session f session f
Down Session g session g
Session h session h
```

61 If more than eight sessions need to be configured, add a new user of “expressa” by performing the following steps:

- a. Place the cursor on the “Group” line.
- b. Select Profile from the menu.
- c. Select New from the Profile menu.

The following screen appears:

```
----- Group User sysadm -----

Insert New
<Session>
<User>

-----
- Cancel -
-----
```

d. Place the cursor on User and press <Enter>. The following screen appears:

```
----- Insert New User -----  
  
Under User Group sysadm  
  
Name.....[                               ]  
Full Name...[                               ]  
  
=====  -----  
-   OK   -   - Cancel -  
=====  -----
```

e. Enter a name of expressa for the second user which will support the next eight sessions, expressb for the third user which will support the next eight sessions, etc. Press <Enter>. The following screen appears:

```
----- User expressa -----  
  
Group: sysadm  
Supervisory Tasks  
-----  
+ Control Communications & Diagnostics  
+ Display Log  
+ Display Trace  
+ Administer Configurations  
+ Administer Log  
+ Define Communications  
+ Define LU 6.2  
  Customize Messages  
+ Define Users/Sessions  
-----  
'+' : defined for      -----  
Group or All Users   - Session Support... -  
-----  
=====  -----  
-   OK   -   - Cancel -   - Password... -  
=====  -----
```

f. Press <Enter> to accept all the Supervisory Tasks. The following menu appears:

```

-----EXPRESS Tree Builder-----
If you wish to insert another profile,
please select:

For User expressa
  <New Session...>

For User Group sysadm:
  <New Session...>
  <New User...>

  <Up a Level>

  <End Insert>

```

g. With the cursor on New Session, press <Enter> to create a new session for the new express user.

```

----- Insert New Session -----
Under User expressa

Session Type
( ) 3270 Display
( ) 3270 Printer
(*) 5250
( ) Local

ID.....[a ]
Description...[ ]

=====
-   OK   -   - Cancel -
=====

```

Session Type—place an asterisk next to 5250 ID— for the first session of the second user enter an “i”. Subsequent sessions of the second user will be “j”, “k”, etc. up to session ID “p” for the second user. For the third user, use ID q, r, s, etc. Upper case letters may also be used.

h. Press <Enter> and the following screen appears:

```
----- 5250 Session a -----  
  
Defined for User express  
  
[*] Displayable task  
  
Telnet Host / CPI-C Symbolic Destination  
  [TRSYM      ]*  
Virtual Device Capabilities  
  [*] Color Support  
  [ ] 132x27 Support  
  
Language....[US                      ]*  
Long Name...[                      ]  
  
=====  -----  
-   OK   -   - Cancel -   - EHLLAPI... -  
=====  -----
```

Make sure NO auto sign-on is selected under the Sign On menu.

i. Press <Enter> and the following screen appears:

```
-----EXPRESS Tree Builder-----  
  
If you wish to insert another profile,  
please select:  
  
For User expressa  
  <New Session...>  
  
  <Up a Level>  
  
  <End Insert>
```

j. Continue selecting New Session and create session i, then j, etc., until eight sessions have been created. **ONLY EIGHT SESSIONS SHOULD BE CREATED PER USER.** More sessions will require another user.

When eight sessions have been created, select End Insert and the following screen appears:

```
[~] Profile Edit Display Preferences Task Help
----- Define Users/Sessions - Users -----
Personal Type Name Description
Status
Menu: All Users All Configuration: Express
<Esc><Ent Group sysadm System Administrators Group
Cancel: User express Default user of EXPRESS
<Ctrl>^ Session a session a
Alt Key: Session b session b
<Esc>q Session c session c
ShellEsc: Session d session d
<Esc>! Session e session e
Task: ; Session f session f
Down Session g session g
Session h session h
User expressa Expressa user
Session i session i
Session j session j
```

After the configuration is completed, exit the Express Manager by choosing Exit from the Profile menu.

Proceed to **“Testing 3270 and 5250 host communications”** on page B-61.

Testing 3270 and 5250 host communications

- 1 After the Express software is configured, issue the following commands to restart Express:

express_adm stop(stop the interface)

express_adm start(start the interface)

express_adm check(check that daemons are running)

express -u express(start Express)

The following menu appears:

```
[~] File Edit Preferences Window Task Help
-----EXPRESS Manager-----
Personal
Status 1. Interactive Sessions
Menu: 2. Control and Administration
<Esc><Ent 3. Server Configuration
Cancel: 4. Desktop Configuration
<Ctrl>^
Alt Key:
```

```
<Esc>q
ShellEsc:
<Esc>!
User:
```

- 2 Select Control and Administration. The following menu appears:

```
----- Control and Administration -----
      I.D.      Description      Status
      @      Control Communications & Diagnostics
      $      Display Log
      *      Display Trace
      '      Administer Configurations
      -      Administer Log
```

- 3 Select Control Communications & Diagnostics. The following screen appears:

```
----- Select Display -----

Please select the type of
objects you wish to work with

<Link, Station>
<Interactive Session>
<LU 6.2 Session>

-----
- Cancel -
-----
```

- 4 Select Link, Station and the following screen appears:

```
[~] Control Edit Display Preferences Task Help
--- Control Communications & Diagnostics - Links, Stations ----
Personal Type      Name      Status      Description
Status
Menu:      Config      Express      Default configuration
<Esc><Ent>  Node      ACME      Enabled      ACME
Cancel:      Indep. LUs  6.2 LUs Using All Stations
<Ctrl>^      LU      Nortel      Inactive      Control Point LU
Alt Key:      Link      ACME Inactive      5250 SDLC
<Esc>q      Station  TR      Inactive      5250 station
ShellEsc:
<Esc>!
Task: @
Search:
Down
```

- 5 By selecting Activate from the Control pull-down menu and moving the cursor to each line, activate the following lines if they do not show Enabled:

- Node
- Control Point LU—ONLY FOR 5250—always configured by Express
- LU—Control Point LU—ONLY FOR 5250—always configured by Express
- Link
- Station

The following confirmation screen appears:

```

----- Confirm Activate -----
Activate SDLC Link ACME?

=====
- Activate -   - Cancel -
=====
  
```

The Control Point LU line only has to be activated for 5250. Activate the Node, the Link, and the Station.

- 6 Press <Enter> with the cursor on Activate. The screen will display “Operation in Progress” and finally change to “Successful completion”. Press <Enter> with the cursor on Close to close this window.

```

===== Activate SDLC Link ACME =====
Successful completion

-----
- Close -
-----
  
```

- 7 The Status should change to Enabled if a successful activation occurs. Continue changing the status on each line which is Inactive. If the Link becomes enabled, enable the station also. When the Station become enabled, this means a successful SNRM or SABME has been passed between the host and the IVR system.

If the Status does not change to Enabled, check the Express Log. The Express Log can be obtained by choosing Display Log from the following menu:

```
----- Control and Administration -----
      I.D.      Description      Status
      @      Control Communications & Diagnostics
      $      Display Log
      *      Display Trace
      '      Administer Configurations
      -      Administer Log
```

The Log solves most of the problems by providing information on where the problem is occurring.

Note: To modify an item in configuration requires that the item be Deactivated in the Control and Communications screen.

- 8 Once all the Status's have become Enabled, an interactive session can be displayed by first returning to the following menu:

```
[ - ] File Edit Preferences Window Task Help
-----EXPRESS Manager-----
Personal
Status      1. Interactive Sessions
Menu:      2. Control and Administration
<Esc><Ent>  3. Server Configuration
Cancel:    4. Desktop Configuration
<Ctrl>^
Alt Key:
<Esc>q
ShellEsc:
<Esc>!
User:
```

- 9 Select Interactive Sessions. The following menu appears listing all the Sessions which were configured:

```
----- Interactive Sessions -----
      I.D.      Description      Status
      a      session a
      b      session b
      c      session c
```


- 10 Place the cursor on the first session line and press <Enter>. The system attempts to bring up a terminal session from the host. A screen similar to the following should appear with a status line along the bottom:

```
[~] File Edit Preferences Window Task Help
----- Session a -----
```

```
INACTIVE a 2          COMM505          LTT=:00.0
          ^^
          |____Session status|____ Comm status
```

3270 Session Status messages and meanings can be found in Chapter 4 of the *Express Terminal Emulator User's Guide*.

5250 Session Status messages can include:

- X—System waiting
- Start—5250 session activation in progress (CPI-C allocation in progress)
- Active—5250 session activated

Communications Check Codes (for example, COMM505) meanings can be found in Appendix C of the *Express Terminal Emulator User's Guide*.